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ABSTRACT

"Graduate education in the U. S. is in trouble." So states the recently released Report of the Task Force established by the Department of Health, Education and Welfare chaired by Frank Newman. This document presents a brief comment of the National Board of Graduate Education upon the major points and recommendations raised in Newmans' report. The National Board believes that the limited focus of the Newman Task Force is a conceptual flaw that vitiates much of the analysis of graduate education. The limitations created by this narrowed perspective cause the Task Force to omit a number of vital questions and issues regarding the Federal Role in graduate education. The issues answered in this retort include: service-oriented programs, oversupply and undersupply, Ph.D. enrollments, access and discrimination in graduate admission, and the task force recommendations. (Author/PG)

NATIONAL BOARD ON GRADUATE EDUCATION



# COMMENT

ON

# THE NEWMAN TASK FORCE REPORT ON THE FEDERAL ROLE IN GRADUATE EDUCATION

(Text of the Newman Task Force Report was published in the Chronicle of Higher Education, March 12, 1973 -- "Comment" by the National Board on Graduate Education appeared in the Chronicle of Higher Education, June 18, 1973.)

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"Graduate education in the U.S. is in trouble." So states the recently released Report of the Task Force established by the Department of Health, Education and Welfare and chaired by Frank Newman, on the Federal Role in Graduate Education (text published in the Chronicle of Higher Education, March 12, 1973). No statement could be more pertinent to the mission of the National Board on Graduate Education--to undertake a thorough review of graduate education today and of its relationship to American society in the future. For this reason, and in the spirit of the Task Force's call for "constructive debate", the National Board has decided to comment briefly upon the major points and recommendations raised in this Report.

The analytical perspective used in a discussion of graduate education is of critical importance in determining both the issues raised and the degree of insight brought to the investigation. For its purposes, the Newman Task Force has chosen a narrow perspective which includes only those activities which directly affect "students qua students." It is the view of the National Board, however, that perceptive analysis of graduate education requires consideration of the broad context of university activities which both affects and is affected by the process of graduate education. Research, undergraduate education, public service (and the overall vitality of the university as an institution), have a substantial influence on the nature of graduate education and therefore should be examined. The limited focus of the Newman Task Force is a conceptual flaw that vitiates much of the analysis.

The need for a more comprehensive framework becomes evident, in the language of the economist, when the university is properly viewed as producing several products, the production processes of which are fundamentally interrelated.[1] Graduate education, undergraduate education, research, and public service are four separate and identifiable university "products," all of which are produced jointly within the university. Graduate students, serving as undergraduate teaching assistants and as research assistants, are central to the university's economy; the cost at which the university can produce undergraduate education and research depends critically upon the number and quality of graduate students present, and their forms of support. Similarly, the numbers of undergraduate students and the level and nature of research activities affect the kind and cost of graduate education offered. Because this fundamental interdependence of university activities is so central to the university's cost structure and to its capability to perform its various functions, any analysis which does not consider these relationships will have substantial limitations.

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1 For an excellent discussion of these relationships, see Marc Nerlove, "On Tuition and the Costs of Higher Education: Prolegomena to a Conceptual Framework," Journal of Political Economy, Vol. 80, No. 3, Part II, May/June, 1972, pp. S178-S218.

The limitations created by this narrowed perspective cause the Task Force to omit a number of vital questions and issues regarding the Federal role in graduate education. What should be the Federal role in supporting university-based research, which is integrally tied to the process of training graduate students? Is there a continuing Federal role in providing institutional support which, through past programs such as the NSF Science Development Program, provided substantial Federal support to institutions for the purpose of developing and strengthening graduate programs and research in the sciences? The complexities that surround relationships among the several Federal mission-oriented agencies and the universities, and insight into the subtle processes by which university research and educational programs at the graduate level are affected and modified by the financial support of client Federal agencies are further important questions involving the Federal role.

"The Golden Years in Graduate Education"--and After

A brief review in the Report of the evolution of graduate education in the last two decades--explosive growth in enrollments and numbers of graduate degrees awarded, doubling of institutions offering the Ph.D., major involvement in sponsored research--demonstrates a remarkable pattern of achievements. Graduate institutions responded superbly to the demands for highly trained manpower as well as to national research priorities and technical needs. As the Task Force points out, the role of the Federal government in encouraging these developments was substantial. The Federal government has sponsored academic research in a steadily larger and more diverse range of disciplines; has provided graduate fellowships and training grants in a growing number of fields; and has provided institutional grants to graduate departments and specialized centers. But the Report of the Task Force also states that ". . . the primary effect of this Federal support has been to underwrite the phenomenal expansion of graduate education much along the lines desired by the major academic disciplines independently of national priorities." (Underlining added.) The Task Force is very critical of graduate departments for being driven by their own internal dynamics and narrow professionalism in preparing " . . . students for careers as teachers and researchers within the educational system."

Certainly much of the Federal support in the 1950's and 1960's was devoted to the expansion of graduate education, but this expansion was itself viewed at that time as one important national priority, as is evidenced by numerous projections of the need for doctoral faculty. Further, many programs of graduate training, such as language and area-study programs, were programs to which the highest national importance was attached. National importance, it may be noted, was also attached to many programs which were not mission-oriented, as is evidenced by the inclusion of graduate education in the humanities (with few exceptions, such as Classics), under Title IV of the National Defense Education Act. Graduate schools did proceed in accordance with what were then seen to be important national priorities, although not in accordance with what

may now be regarded as present national priorities.

It is pertinent to point out, moreover, that some of the problems confronting graduate education today stem from the existence of forces set in motion during the 1960's by the Federal government and others. Many institutions were encouraged to enter graduate education for the first time; others implemented new programs and expanded existing ones. Large numbers of new facilities were constructed, and faculties grew substantially. Fellowships and traineeships encouraged broad access and participation in graduate education for the first time. But now, with a new perception of adequate or even surplus manpower resources in many fields and the leveling-off of the rapid growth of R&D expenditures by the Federal government public support for graduate education is declining. Reductions in support raise serious questions for graduate education. What should be done with programs that were initiated in the 1960's but have not yet reached a "critical mass" in terms of program resources, students, and cost considerations? How can programs be reduced or eliminated in light of existing commitments to students and faculty? What of the expectations of minority and women students that have risen rapidly in the last decade--how may their needs be accommodated? In point of fact, there are many understandable professional, equity, and efficiency considerations which may render current enrollment levels, or even expansion of graduate programs, desirable from the perspective of individual departments or institutions, but these actions do entail very real costs. For example, students may incur substantial private costs if encouraged to continue study in fields with bleak employment prospects; moreover, graduate education is expensive, and the taxpayer has assumed an increasingly larger role in its support in recent years (particularly with the expansion of public institutions). The difficulties and conflicting interests inherent in undertaking necessary cutbacks in activities in some graduate institutions and in some fields constitute, in themselves, a major problem facing graduate education today.

## The Problems--What Are They?

The Newman Task Force identifies a set of problems which it considers to be of prime importance, and the analysis of these problems underlies the thrust of the Report.

### "Oversupply and Undersupply"

The question of oversupply in some fields and undersupply in others is extremely complex, and generalized perceptions of the problem which result in simplistic, often extreme responses are, as the Newman Task Force points out, "nearly as troublesome as the imbalance itself." Forecasts of a huge surplus of unemployed Ph.D.'s are naive. It is, as the Task Force suggests, much more relevant to consider the situation of Ph.D.s

who find employment "not reasonably related to their training . . .," the proverbial Ph.D. who ends up driving a taxicab. But information is lacking here. The Task Force makes a qualitative judgment that "such a situation exists today . . . and is becoming more serious year by year," but offers no evidence to support its conclusions on this point. While employment openings in academic institutions will be substantially limited in the next decade,[2] the question of non-academic employment opportunities must be examined. The flexibility of Ph.D.'s in using their skills productively in new ways and the initiative of graduate institutions in developing programs to prepare students for a wider (and valuable) range of career alternatives, can combine to alter significantly the nature of employment opportunities for highly-trained manpower in the future. Moreover, the Task Force notes that some graduate departments, perceiving bleak job prospects for their graduates, may be cutting back and that some states are curtailing their support of graduate study for similar reasons. These developments, the Task Force states, may force some downward pressures on graduate enrollments but, nonetheless, "many thousands of candidates are on their way to doctorates, encouraged by graduate schools responsive to their own inner dynamics . . .." But graduate students are assumed to be well-informed, intelligent individuals; it seems unlikely that they will all fail to perceive a lack of employment opportunities and continue in ever-increasing numbers to obtain degrees in fields where the job outlook bodes ill. There is preliminary evidence to suggest that, in fact, this is happening -- students are responding to job market considerations. For example, first-time graduate enrollments in physics and chemistry (including part-time students) declined 16% and 9% respectively from 1966-67 to 1971-72,[3] in part the result of disenchantment with the well-publicized employment difficulties in these fields. Similarly, with the present pessimistic forecasts for academic employment opportunities during the next decade, first-time enrollments are declining in many disciplines where colleges and universities are the major employer. (See Table I in the next section.)

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2 F.E. Balderston and Roy Radner, "Academic Demand for New Ph.D.'s, 1970-90: Its Sensitivity to Alternative Policies," Ford Foundation Program for Research in University Administration, Paper P-26 (Berkeley: University of California, December 1971); Dael Wolfle and Charles V. Kidd, "The Future Market for Ph.D.'s," Science, 173 (August 27, 1971), pp. 784-793; and Allan M. Cartter, "Scientific Manpower for 1970-85," Science, 172 (April 9, 1971), pp. 132-140.

3 U.S. Office of Education, Students Enrolled for Advanced Degrees: Fall 1966, Washington, D.C.; and preliminary figures provided by the U.S. Office of Education on enrollment for advanced degrees, Fall 1971. Enrollment declines in physics and chemistry have been much more pronounced if only full-time enrollments are considered--see "Summary of Activities of the ACS Committee on Professional Training for 1972," Chemical and Engineering News, April 30, 1973 and Physics and Astronomy Enrollments and Degrees in the U.S., American Institute of Physics, Pub. No. R-151.10, March 1973.

"The Need for Service-Oriented Programs"

Related to the issue of a mismatch between the supply of and demand for highly-educated manpower is the Task Force's statement of the "need for service-oriented programs." In the past decade, universities' involvement in research and the training of Ph.D.'s to meet projected demands for faculty and other highly trained manpower were major goals, and those efforts were extensively supported by the Federal government, among others. Now that situation has changed, and the Task Force stresses current needs for graduate-trained manpower in social service areas. It then argues that graduate schools are internally oriented to the academic disciplines, having failed thus far to create "new programs that match expected national needs for highly trained manpower over the next few decades--for example the social demand for skilled researchers and practitioners to tackle the problem of population control, environmental problems, city management, the delivery of health services, and so on." The Task Force claims that instead of reorienting programs in order to prepare graduates for employment outside the educational system, ". . . new devices are being found to increase the capacity of the academic marketplace to absorb new workers . . . . Past growth rates and projections for future increases in the number of Ph.D.'s awarded in fields such as anthropology, English, history, and foreign languages, all heavily dependent upon academic markets, are as high or higher than for fields such as engineering and biology." These statements convey the impression that graduate schools are unresponsive to student and social needs, and form the basic analytic premise from which much of the Report's later analysis and support of its recommendations are drawn. However, examination of enrollment trends in various fields suggests that, in fact, first-time graduate enrollments in many traditional academic disciplines are declining while substantial, often spectacular growth is occurring in disciplines that <u>are</u> "externally oriented" and relevant to social problem-solving needs. The following table shows that a number of traditional academic disciplines and fields that have large non-academic employment opportunities oriented toward social service needs are growing at a substantial rate.

Table I

Average Annual Increase in First-time Graduate Enrollments

| | 1964-66 | 1966-68 | 1968-69 | 1969-70 | 1970-71 |
|---|---|---|---|---|---|
| Mathematical Sciences | 3.3% | 2.6% | 3.4% | -1.1% | -11.8% |
| English & Literature | 7.7 | 6.3 | 7.7 | 2.3 | - 2.2 |
| History | 8.1 | 4.8 | 9.4 | 2.2 | - 9.5 |
| Philosophy | 9.3 | -1.0 | 2.7 | 6.7 | - 7.8 |
| Foreign Languages | 15.4 | 6.1 | 4.4 | -3.4 | - 7.2 |
| Health Professions[4] | 8.6 | 14.8 | 5.4 | 9.9 | 20.8 |
| Architecture & Env. Design (incl. City Planning) | -- | 10.7 | 31.8 | 19.5 | 20.5 |
| Business & Commerce | 11.7 | 11.0 | 11.4 | 10.5 | 6.8 |
| Applied Social Science and Public Service Fields[5] | 3.5 | 10.3 | 14.4 | 8.3 | 14.0 |
| Total All Fields | 7.8 | 11.2 | 7.9 | 6.8 | 0.1 |

Source: U.S. Office of Education, Enrollment for Master's and Higher Degrees, Fall 1964; Students Enrolled for Advanced Degrees: Fall 1966 (and Fall 1968, Fall 1969, Fall 1970), Washington, D.C.; and preliminary figures from U.S. Office of Education on enrollment for advanced degrees, Fall 1971. Adjustments for changes in taxonomy were made.

Certainly the degree of departmental responsiveness to student and societal needs and the reasons for these enrollment shifts must be explored (Are students' desires forcing graduate programs to adjust? Are graduate schools taking the initiative? Are mission-oriented research

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4 U.S. Office of Education, Enrollment for Master's and Higher Degrees, Fall 1964; Students Enrolled for Advanced Degrees: Fall 1966, 1967, 1968, 1969, 1970, and preliminary figures provided by the U. S. Office of Education on enrollment for advanced degrees, Fall 1971. Adjustments for changes in taxonomy during the period were made. A detailed explanation of the method of calculation is available upon request.

5 U.S. Office of Education, op. cit. This category reports enrollments in disciplines considered to have an applied social science and public affairs orientation such as public administration, social work, urban studies, foreign service, etc., but specifically omits the "academic" disciplines of anthropology, archaeology, economics, history, geography, and political science for each year. A detailed taxonomy is available upon request.

priorities exerting a major influence?), but the above figures indicate that the profile of graduate enrollments is changing.

"Gresham's Law of Ph.D. Enrollments"

A third problem which the Task Force cites is "a shift in enrollments of Ph.D. candidates from institutions of acknowledged quality to new institutions giving rise to a threat to the overall quality of graduate training for scholarly research." The establishment and expansion of lower quality Ph.D. programs patterned after the traditional research academic mode is not the zero-sum game that the Task Force implies. Expansion of less prestigious institutions does not automatically cause cutbacks in programs at institutions of acknowledged excellence because of the latter's perceptions of a diminished market for their graduates. In addition, the Task Force claims that most of this enrollment growth in the new institutions does not represent ". . . a shift to new fields of study . . . the evidence so far is that institutions with new graduate programs have almost universally created traditional departments with less skilled faculties for training research scholars in already crowded fields." The Newman Task Force presents no evidence in support of its statement. A recent study by C.V. Kidd indicates that the top sixty universities produced 68% of the total Ph.D. degrees in 1969-70 while the remainder produced only 32%.[6] Among the top sixty ranked public and private universities and the "other" (non-top sixty) public and private institutions, growth rates in the 1960's in doctoral production were fairly uniform, with the exception of the "other" public universities which produced seven times as many doctorates in 1969 as they did in 1960. Doctorate production at these "other" public institutions expanded at an average annual rate of 24% during that period while all private schools and the top thirty public institutions grew at a rate of about 9% per year. In recent years, however, first-time graduate enrollments in all Ph.D.-granting institutions have slowed; for the year 1970 to 1971 the increase was only 0.9% and from 1971 to 1972, the growth was 2.7%.[7] A survey reporting first-time graduate enrollments from 1971-72 in 277 institutions in six discipline areas provides insight into enrollment distribution among the different quality schools.[8] (See Table II)

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6 C.V. Kidd, "Shifts in Doctorate Output by Types of Universities in the 60's and Projections for the 70's," unpublished draft manuscript, April 17, 1972.

7 Council of Graduate Schools--Graduate Record Examinations Board, "Report of 1971-72 Survey of Graduate Enrollment," 1972; and Council of Graduate Schools--Graduate Record Examinations Board, "Report of 1972-73 Survey of Graduate Enrollment, Part I, 1972."

8 "Council of Graduate Schools--Graduate Record Examinations Board, Report of 1972-73 Survey of Graduate Enrollment," Part II, 1973.

Table II

Percent Change in First-time Graduate School Enrollment, By Discipline Area, 1971-72

| | All Ph.D. Institutions | Top 26 Ranked* Institutions[9] |
|---|---|---|
| Education | 7% | 11% |
| Humanities | 5 | 16 |
| Social Sciences | 4 | 15 |
| Physical Sciences | -9 | -6 |
| Engineering | 6 | 5 |
| Biological Sciences | 8 | 12 |

*Overall institutional quality rankings were estimated from individual department standings in quality of faculty as reported in the survey by Kenneth D. Roose and Charles J. Andersen, A Rating of Graduate Programs, American Council on Education, 1970.

These figures suggest that the top-ranked schools showed greater first-time enrollment increases (or smaller decreases) in all but one discipline category than the average figures for all schools. Clearly more research is needed to ascertain whether in this recent period of slower enrollment growth in all doctoral institutions, the proportion of degrees produced by the less prestigious schools will continue to increase as it did throughout the 1960's.

"Access and Discrimination in Graduate Admission"

The final problem described in the Report concerns access to education at the graduate level. It is pointed out that while participation in undergraduate education by minority students has been greatly increased, improvement in access to graduate education has been more modest. The Task Force states that a part of the difficulty probably stems from the "need to increase the undergraduates prepared for graduate education first." However, the Task Force also speculates that individual departments which generally control graduate admissions may be less fully committed to increasing minority enrollments than are the institutions as a whole, the latter being largely responsible for undergraduate admissions.

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9 The enrollment figures reported for these twenty-six schools were provided by Robert A. Altman, Program Director, Educational Testing Service, and are derived from the previously cited survey, Council of Graduate Schools-Graduate Record Examinations Board, op. cit., 1973. Although not all schools among those ranked in the top twenty-six were represented in this survey, the results reported appear to be indicative of the trends experienced by twenty-six schools as a group.

A recent survey of 302 institutions offering graduate work inquired into the status of current efforts to increase minority/disadvantaged graduate student enrollments and to assist such students once enrolled.[10] Sixty percent of the schools offering a doctorate degree reported that special efforts were being made to recruit minority graduate students, particularly at schools with larger graduate programs and in metropolitan areas. Moreover, individual departments within institutions were generally found to be more liberal in modifying admission requirements for minority/disadvantaged students than were the graduate schools as a unit. The goal of increasing minority student participation at the graduate level does not appear to be, as the Task Force implies, deterred by greater rigidity or lesser commitment on the part of faculty in individual departments as contrasted to a strong commitment to improved access at all levels of the institution as a whole. Rather there are significant problems inherent in the process of identifying potential minority applicants, in coordinating the extensive efforts required by both the graduate school and individual departments for such programs, in developing programs to assist minority group students with weak academic backgrounds, and in providing adequate financial resources to support these programs which often involve extensive recruitment costs, implementation of special faculty and staff services for enrolled students, and provision of financial aid.

In a similar vein, the Task Force states that "women are openly discriminated against in admissions and in the awarding of financial support for graduate school." Certainly women are underrepresented in total graduate school enrollments (women accounted for 36% of enrollment for master's and doctor's degrees in 1970-71)[11] and in degrees earned, but this in itself does not mean that discrimination in the graduate admissions process is the prime cause. Recent evidence from a number of universities shows that while fewer women than men applied for entrance to these graduate schools, admissions rates for women as a percent of total applications submitted by women were similar to admissions rates experienced by male students.[12] Detailed data drawn from a large number of national fellowship programs for the period 1968-72 revealed that women comprised a larger proportion of the total number of fellowship recipients than of

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10 I. Bruce Hamilton, "Graduate School Programs for Minority/Disadvantaged Students," Graduate Record Examinations Board--Council of Graduate Schools in the United States, 1973.

11 U.S. Office of Education, op. cit., Fall 1970.

12 A preliminary study by Lewis C. Solmon, Staff Director, Board on Human Resources, 1973 (unpublished), cites recent data on applications and admissions by field and sex reported by Stanford University, UCLA, and the University of California, Berkeley.

total applicants.[13] (These two examples seem at first glance to deny the case for any discrimination but it must be remembered that while women have comparable scores on tests of quantitative and verbal aptitudes, they receive consistently better grades throughout college, thus implying that on the basis of these criteria, women should experience higher admissions rates and receive more financial awards than male applicants.) Other considerations must be explored. What societal factors (marriage, children, family expectations and employer attitudes) may produce lower levels of aspiration to graduate education for women, particularly for the Ph.D. degree?[14] Why do even fewer women appear to actually apply to graduate school than aspire to advanced degrees?[15] What kinds of more subtle factors may be present in institutions (faculty attitudes, lack of child care facilities, peer influences, counseling) that may create a de facto atmosphere of discrimination? More research into these questions is needed, but clearly, on the basis of available evidence it is not reasonable to conclude that discrimination in admissions is the prime explanation for differential rates of participation of men and women in graduate education.

The third "fact" of discrimination in access to graduate education claimed by the Task Force is that against older students, particularly at the most prestigious universities. One may question why an institution would select younger students in preference to more mature students if the evidence cited by the Newman Task Force shows that the latter ". . . study with more focus, do better work, and have a higher rate of persistence to a degree." Clearly, a better understanding of the factors relevant to students' success or failure in graduate school are needed in order that selection in admissions may be improved to minimize both the large individual and social costs involved in attrition, and to identify and assist students already enrolled in graduate school who may have later difficulties.

Task Force Recommendations

On the basis of its analysis, the Newman Task Force presents two recommendations for changes in Federal financial support for graduate students. Recommendation One calls for portable fellowships and companion grants, while Recommendation Two urges expanded loan and work opportunities for graduate students.

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13 Lewis C. Solmon, op. cit. He cites a study by Cynthia Atwood, Women in Fellowship and Training Programs, Association of American Colleges, 1972. This study reports data on national fellowship programs for which statistics are available during the period 1968-73. Solmon notes, however, that only a small number of women actually applied for fellowships.

14 Alan E. Bayer, Jeannie T. Royer and Richard M. Webb, Four Years After College Entry, ACE Research Reports, 8 (1) American Council on Education, March, 1973.

15 Lewis Solmon, op. cit. The three institutions reporting data on women applicants as a percent of total applicants showed that between 25 to 35% of those applying were women.

The intellectual thrust behind the portable fellowships is the economist's concept of consumer sovereignty--the belief that if students, and not institutions, are supported directly, students will exercise their power in the educational marketplace to select programs that meet their needs, thereby forcing institutions to compete in providing programs that satisfy student demands. Thus, by increasing the market power of graduate students, the Newman Task Force hopes to reform graduate education.

The intellectual concept underlying portable fellowships is appealing, but the operational aspects must be carefully explored. In this connection, several questions may be raised about the Task Force recommendations.

(a) Fellowship support would be limited by the Task Force to a period of three years, at a level sufficiently low to require a significant investment of the student's own resources to meet the direct cost of attendance. When this recommendation is considered in light of other changes that the Task Force advocates (more off-campus work experiences, internship years, stopping-out between degrees, increased student transfer between departments or universities), it seems likely that the duration of graduate study for most students would be significantly increased. While some of the program changes suggested by the Task Force may be worth adopting, the (questionable) benefits of off-campus work may not compensate for the costs associated with an extended period of graduate study; moreover, attrition might increase since financial difficulty is one major reason for discontinuing graduate study. Every effort should be made to provide students with part-time employment opportunities that relate more directly to the student's course of study and which will not delay progress to the degree.

(b) Under the Newman Task Force proposals, "tuition would be payable by the student from his fellowship and his own resources." This recommendation would place the private universities at an extreme disadvantage in competing for such students because of the large tuition differentials between private and public universities. The Task Force has already noted the expansion of public universities relative to private institutions; this proposal would further increase the disparity.

(c) The portable fellowships could be used by students in a variety of professional programs, including law and business schools. In light of the generally high income expectations of the graduates of such professional programs, it is not clear that fellowship support for students in such programs is necessary.

(d) The Task Force offers another judgment in need of further examination. It notes that "since almost all (Federal) fellowship and traineeship support is awarded on the basis of academic ability, no incentives exist for focusing Federal support on students likely to have the most productive careers. . . . The issue is not how well the candidate will perform during his or her graduate studies, but what contribution will be made after graduation." (The assumption here seems to be that current

methods of selection have functioned unsatisfactorily, an assumption that remains unproven.)[16] No one would question such criteria if they could be rendered operational but the Task Force does not provide useful guidelines to help graduate departments or fellowship committees assess an applicant's potential for future contribution to society.

The third recommendation of the Task Force, a program of project grants to encourage program innovation and reform, recognizes that institutional efforts to implement creative reforms may be difficult in the current environment of financial retrenchment in many sectors of higher education. This program would include grants to promote versatility in Ph.D. and equivalent training, grants to restructure and revitalize professional schools, and grants for internship programs, all activities worthy of support. In light of the current precarious financial status of major research universities, however, relatively short term project grants for change in themselves are an inadequate Federal response. Earl Cheit recently summarized the plight of universities as follows:

> As a group, the research universities seem to be in the greatest state of concern about their future. The public institutions are somewhat demoralized about the qualitative leveling to which they fear they will be subject. The private universities, even those financially secure, have doubts about their future as research institutions. This is a fear borne of restrictive federal policies toward funding graduate education and toward science, especially basic research. The federal budget proposed for fiscal 1974 phases out hospital construction grants, regional medical and community mental health center programs, training grants of the National Institutes of Health and National Institutes of Mental Health, social work training programs, capitation grants to schools for veterinarians, optometrists, and pharmacists, and institutional support of schools of public health

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16 For evidence on this point, see David Wise, "Academic Achievement and Job Performance: Earnings & Promotion," Ford Foundation Program for Research in University Administration, Paper P-37 (Berkeley: University of California, January 1973). The author concludes on the basis of his study of the relationships of measures of academic achievement and other personal characteristics to job productivity of college graduates, that "measures of academic achievement and ability used in the selection and certification process in higher education are . . . related to the productivity of college graduates in this sample . . . these findings lend support to the practice of selecting students on the basis of academic measures. But non-academic attributes, largely independent of academic characteristics, have also been shown to affect productivity . . . . If persons were selected for higher education on the basis of their potential as future students, consideration of non-academic as well as academic attributes would be necessary."

and allied health fields. Elimination of these programs presents serious new financial setbacks for most large universities.[17]

Thus, when considering financial support for graduate education, first priority should be given to the development of efficient and equitable methods of finance that will provide greater stability while minimizing stop-and-go policies that are inefficient over the long run. The value of project grants for change will increase when these more fundamental issues of finance are satisfactorily resolved.

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The issues confronting graduate education today are many and complex, reaching far beyond the points discussed in the Newman Task Force Report and in this commentary. The future vitality of graduate education requires an environment of constructive debate and cooperation among those responsible and concerned for its development. It is in this spirit that the National Board on Graduate Education has prepared this statement.

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[17] Earl F. Cheit, The New Depression in Higher Education--Two Years Later, Technical Report Sponsored by the Carnegie Commission, Berkeley, California, 1973, pp. 49-50.

NATIONAL BOARD ON GRADUATE EDUCATION

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